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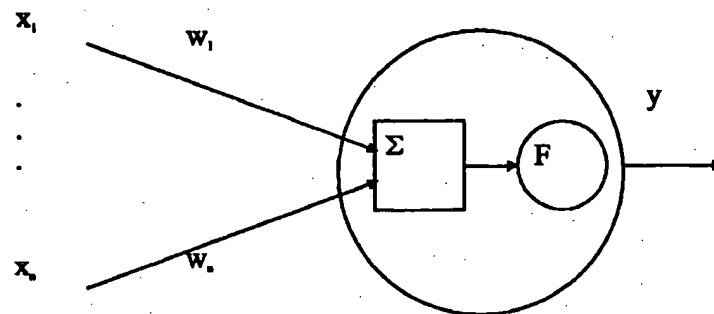


Figure 1 – Conceptual processing in classical networks

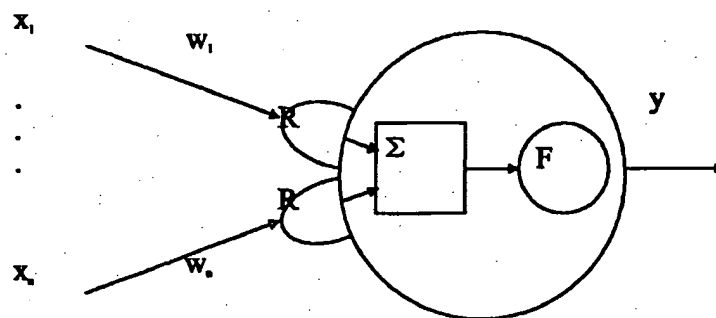


Figure 2 - Conceptual processing in classical Sine Net networks

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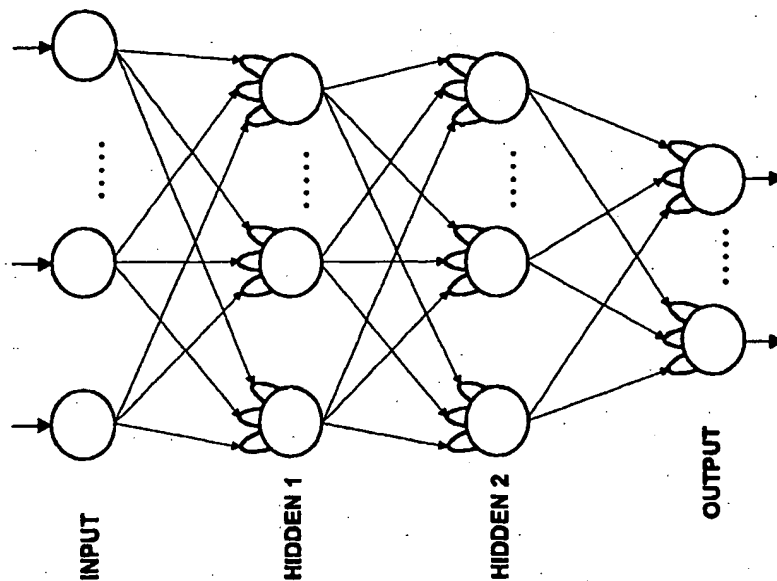
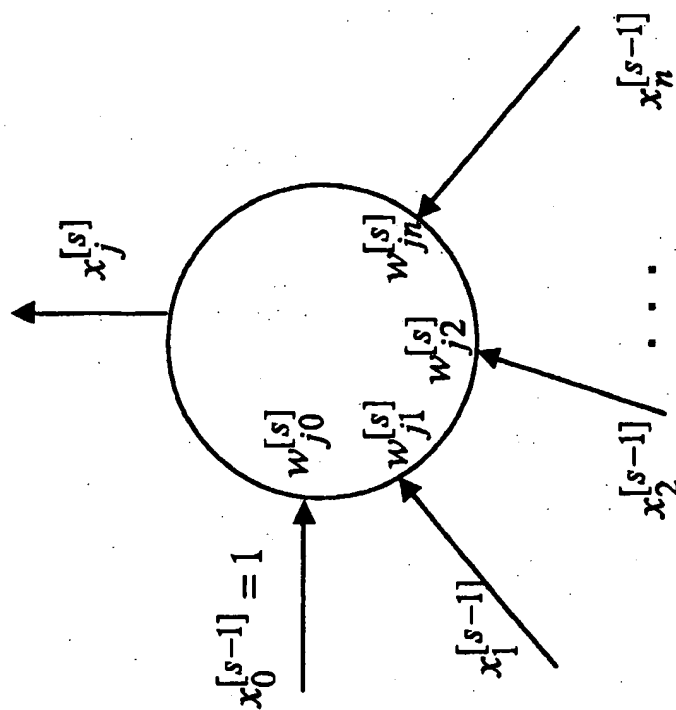


Figure 4 — Representation of a multi-layer Sine Net

Figure 3 — Node variables for the j -th node

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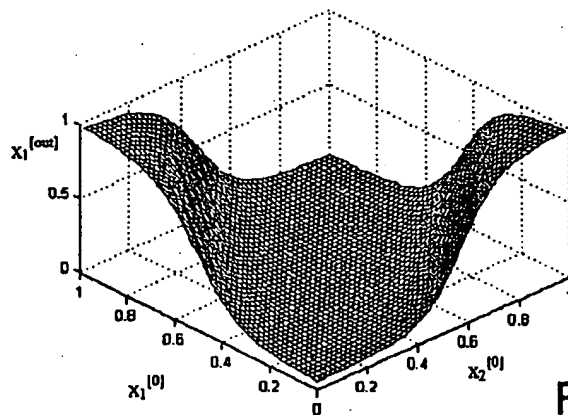


Figure 5 – BP
solution of XOR
problem

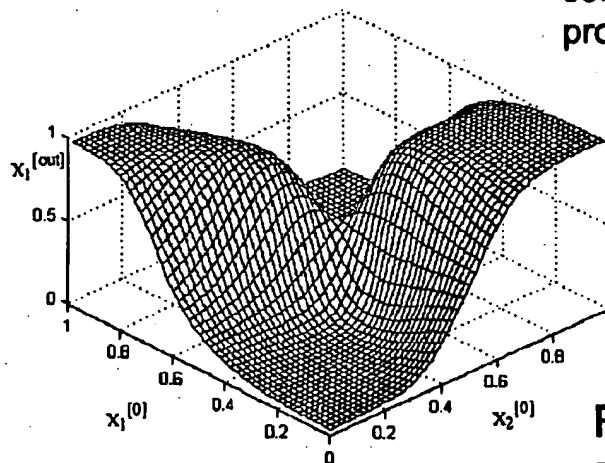


Figure 6 – RBF
solution of XOR
problem

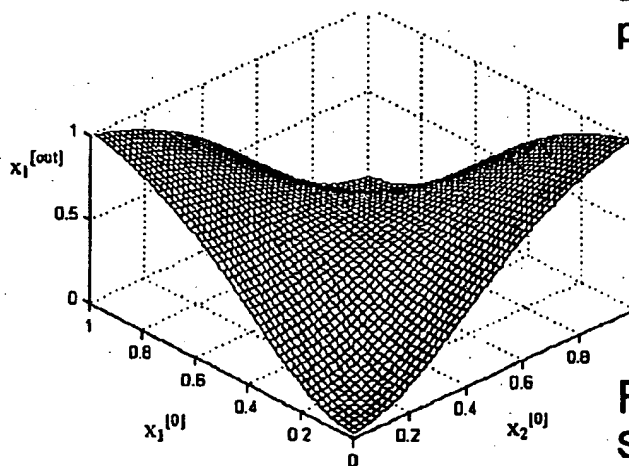


Figure 7 –
SN solution of
XOR problem.

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Figure 10 — Back-propagation solution of the two spirals problem.

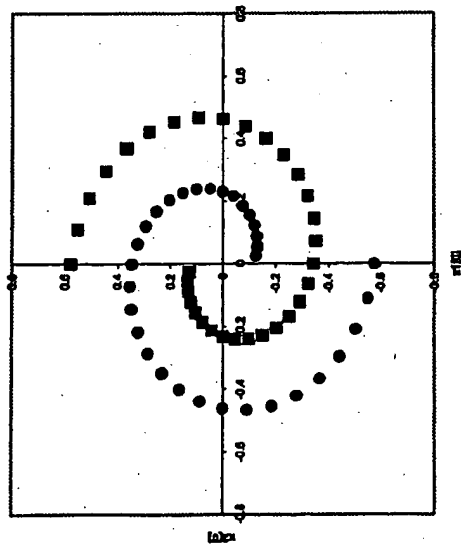
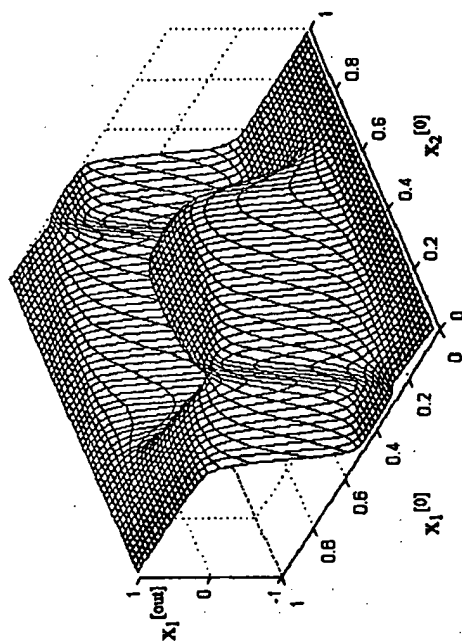


Figure 8 — The two spirals problem.

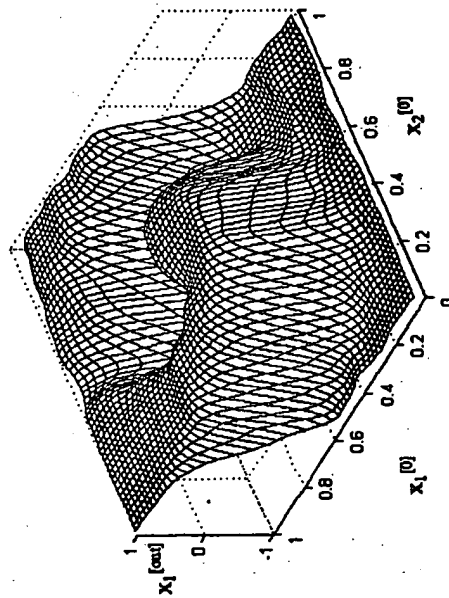


Figure 9 — Sine Network solution of the two spirals problem.

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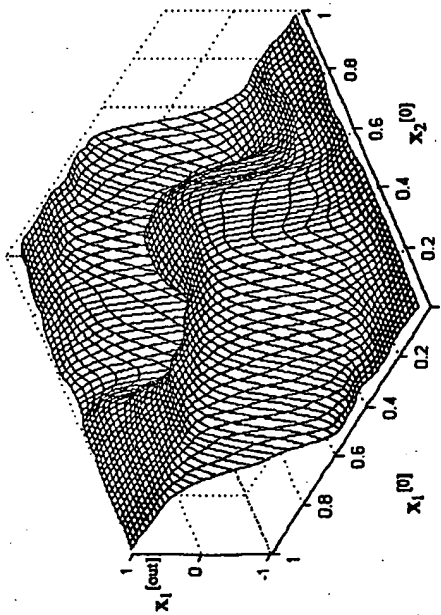


Fig. 11a – SN solution of Spiral problem with weight range (-1,1)

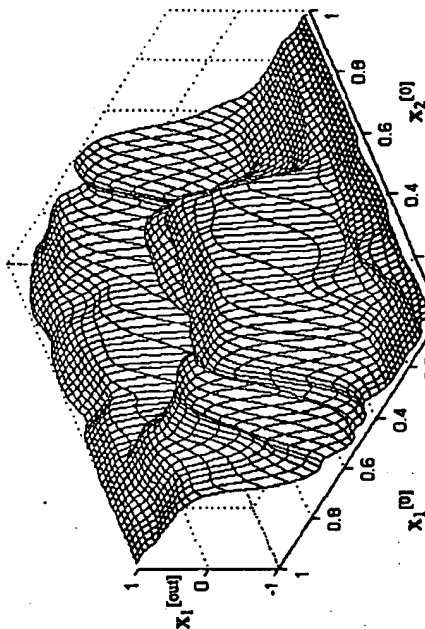


Fig. 11b – SN solution of Spiral problem with weights range $(-\pi, \pi)$

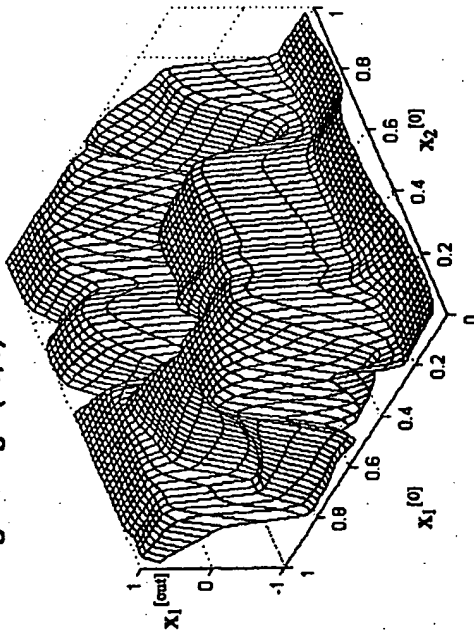


Figure 11c – SN solution of Spiral problem with weight range $(-10,10)$

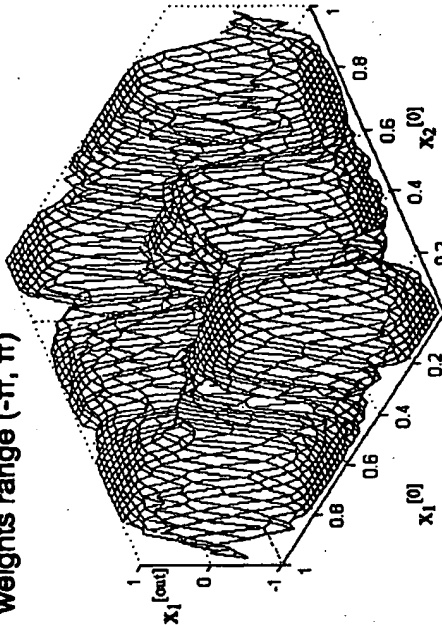


Fig. 11d – SN solution of Spiral problem with weight range $(-20,20)$

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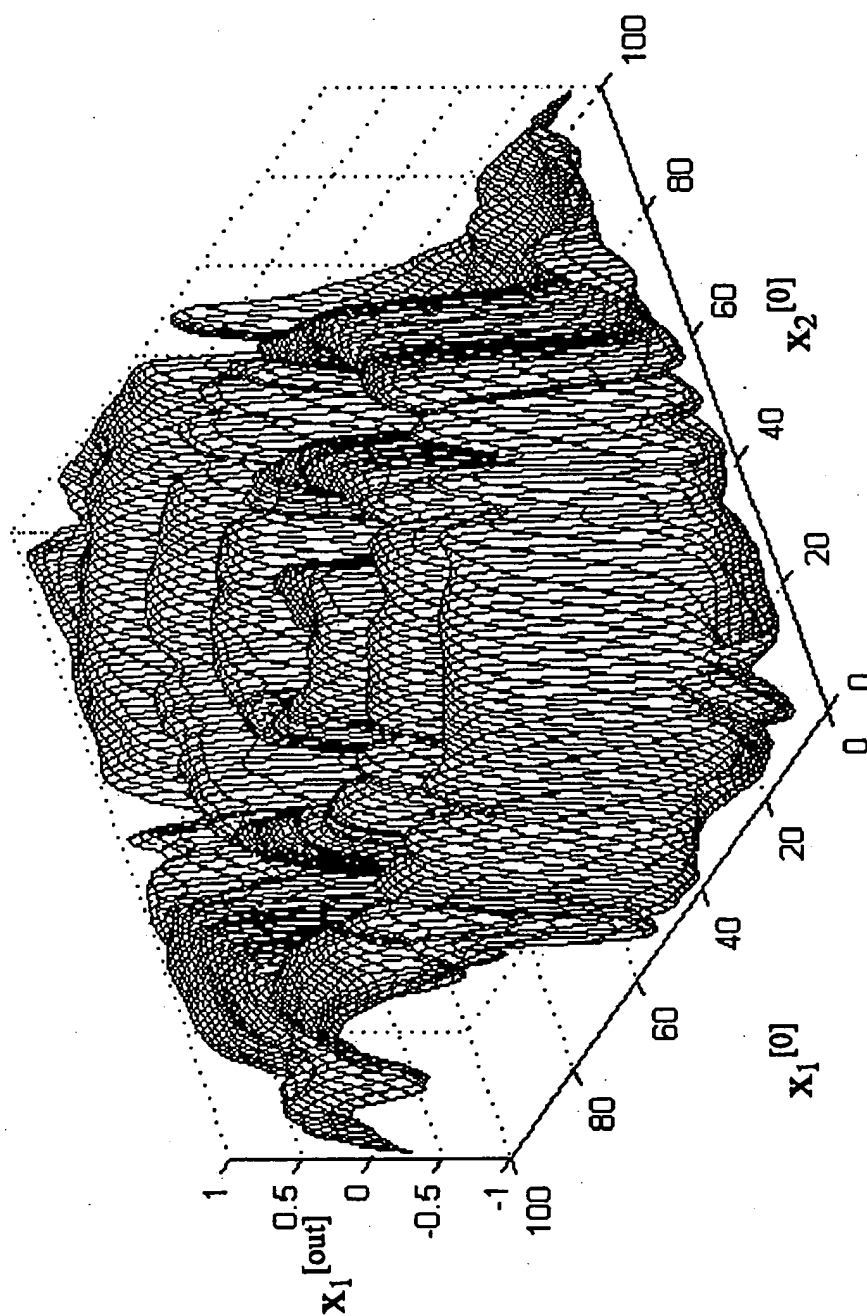


Figure 12 – Solution of Sine Net on spiral problem with 192 points.

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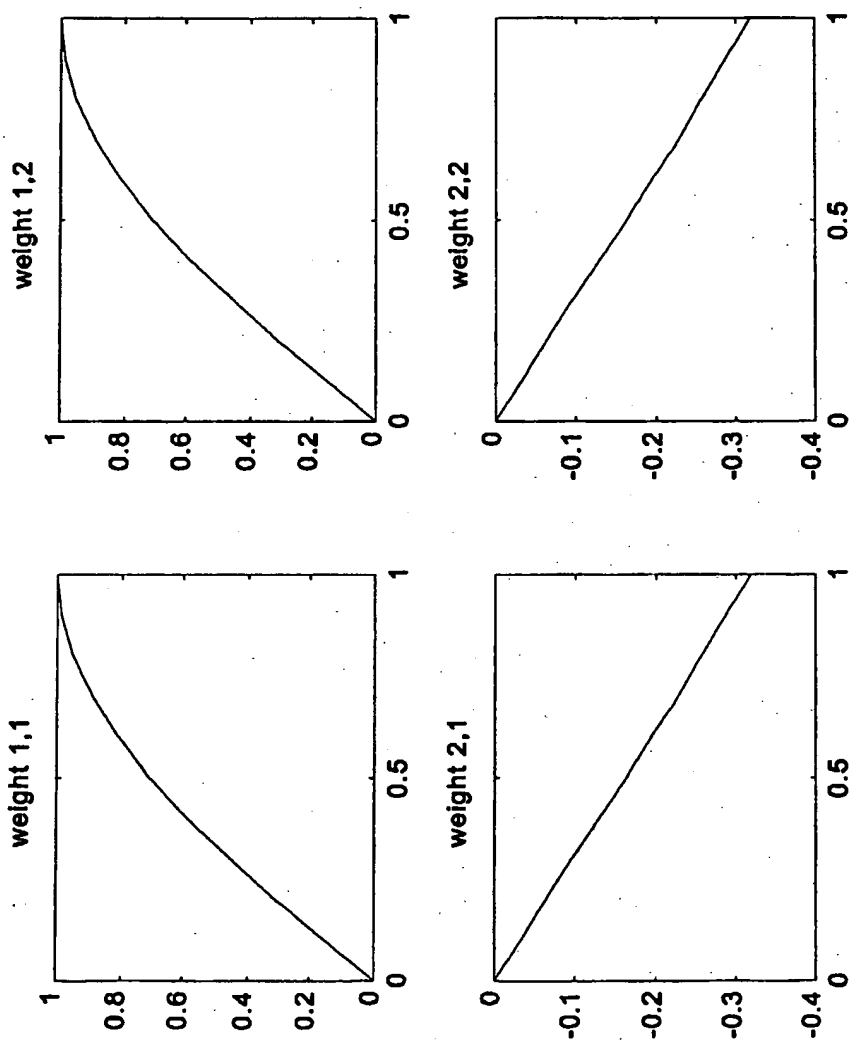


Figure 13 – SN weight transfer function from input to hidden nodes

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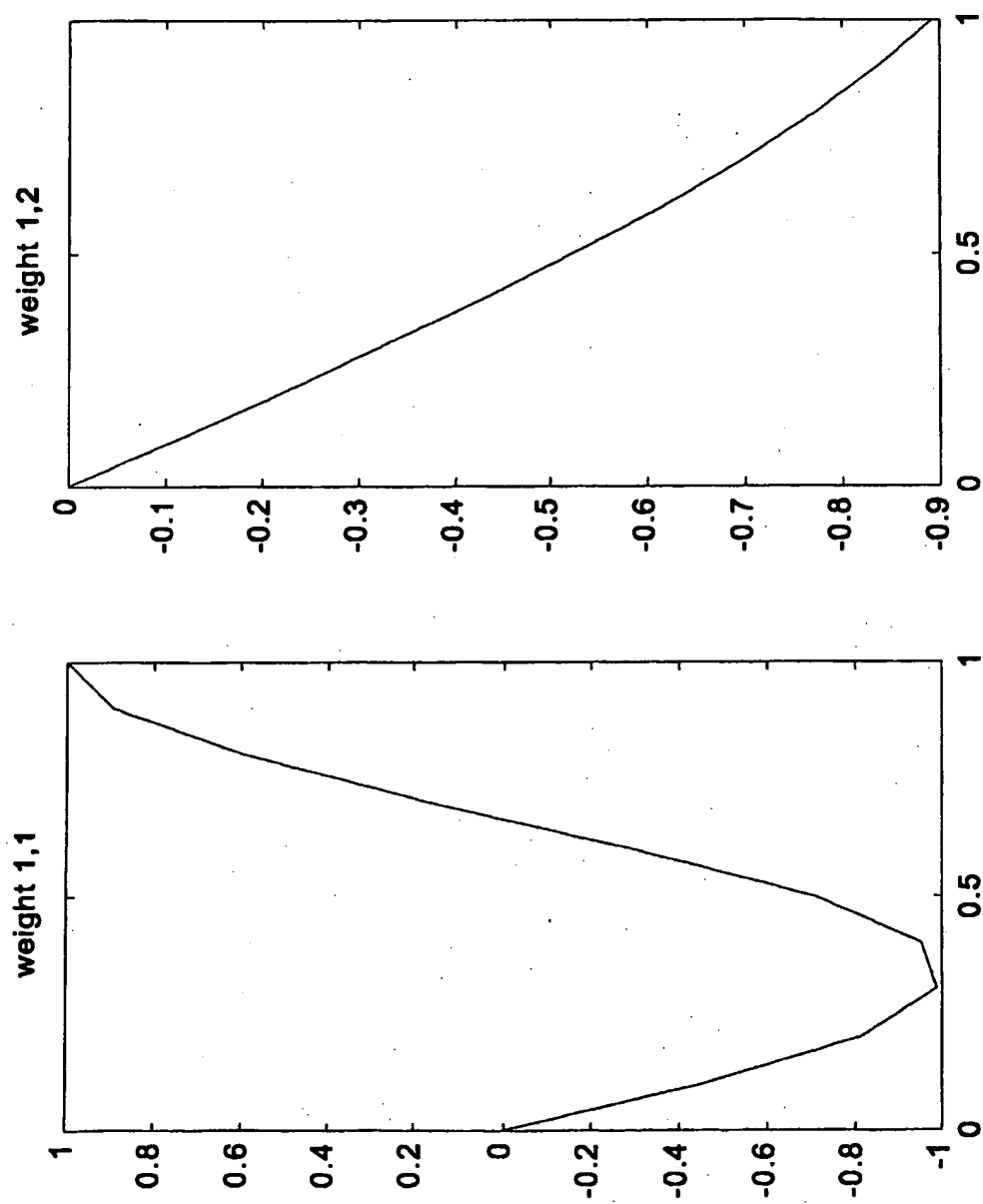


Figure 14 – SN_weight transfer function from hidden to output nodes

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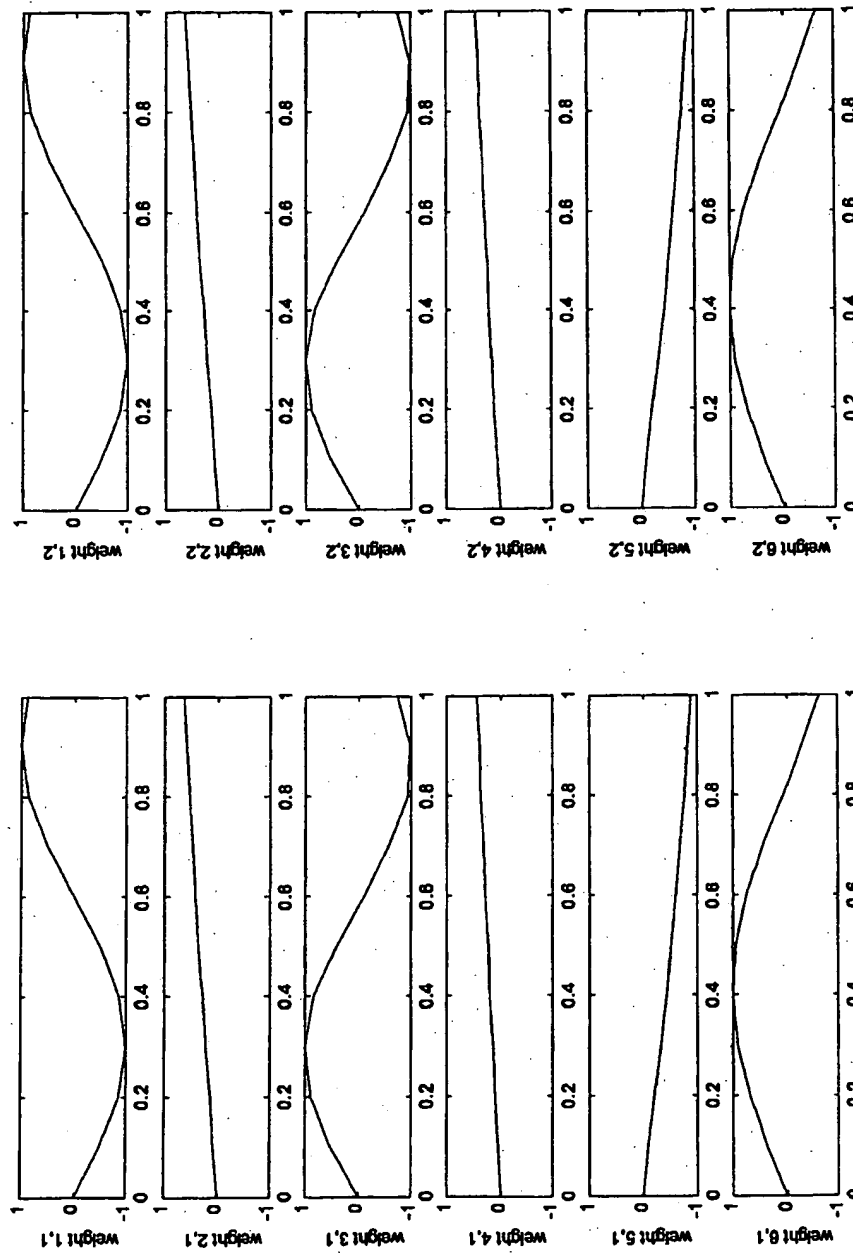


Figure 15 – SN weight transfer function from input to hidden nodes

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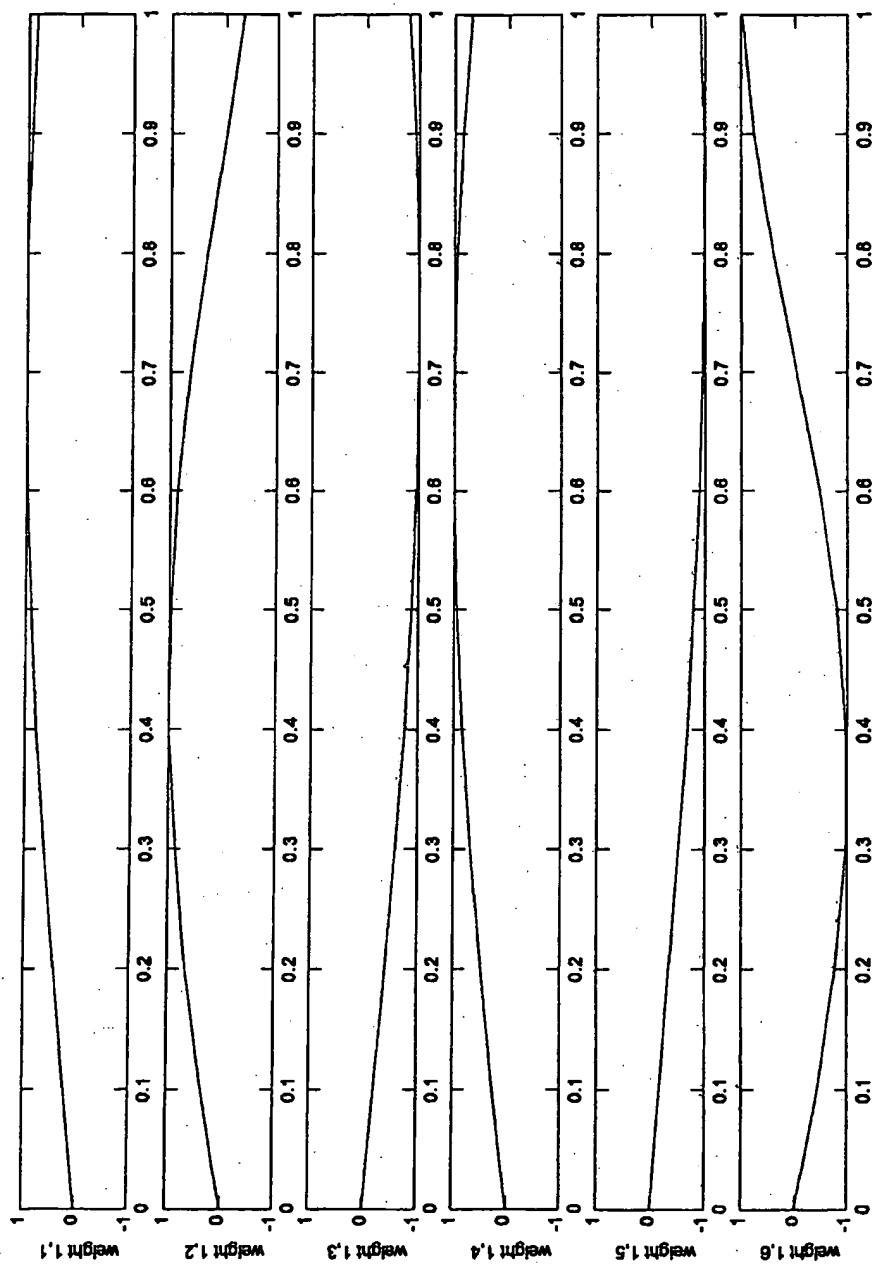


Figure 16 – SN weight transfer function from hidden to output nodes

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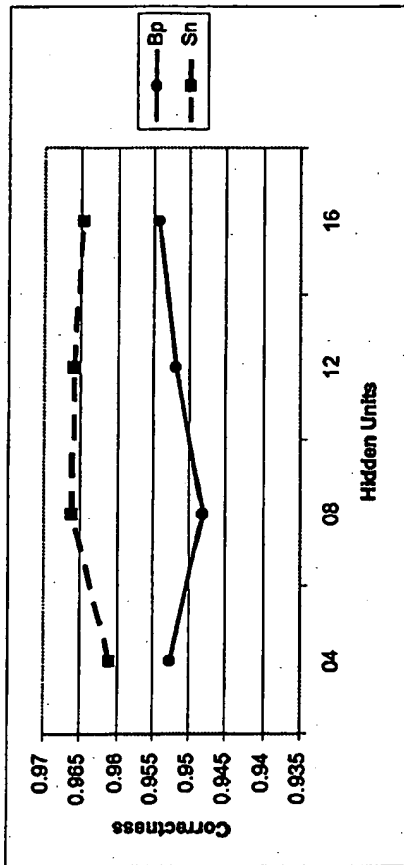


Figure 17 – Comparison between Bp and SN network during the first trial, correctness on hidden units number

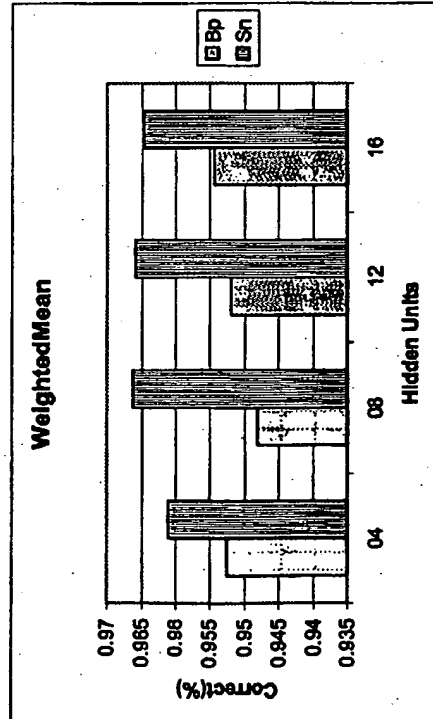


Figure 18 - Result Comparison between BP and SN on the Breast Cancer dataset.

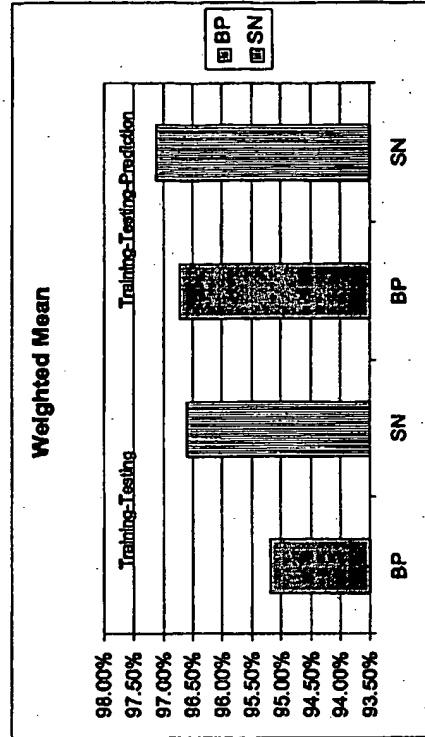


Figure 19 – Result Comparison between BP and SN on the Breast Cancer dataset using "Early Stopping"

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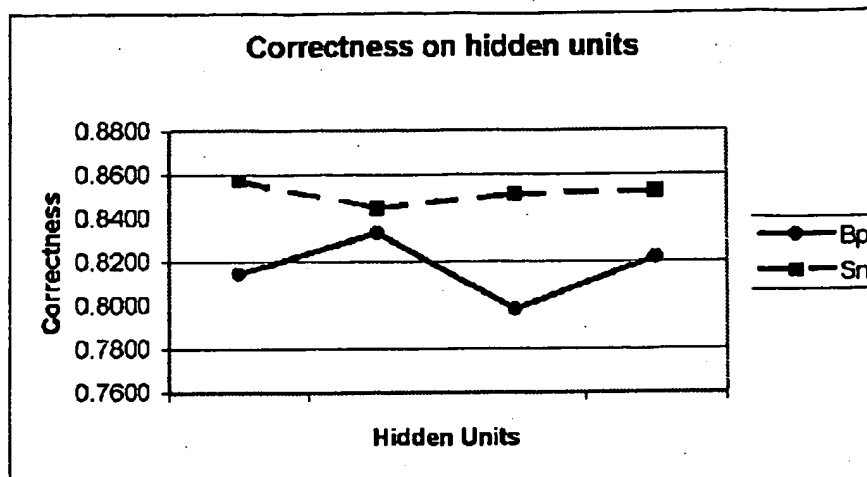


Figure 20 – Comparison between Bp and SN network during the first trial, correctness on hidden units number

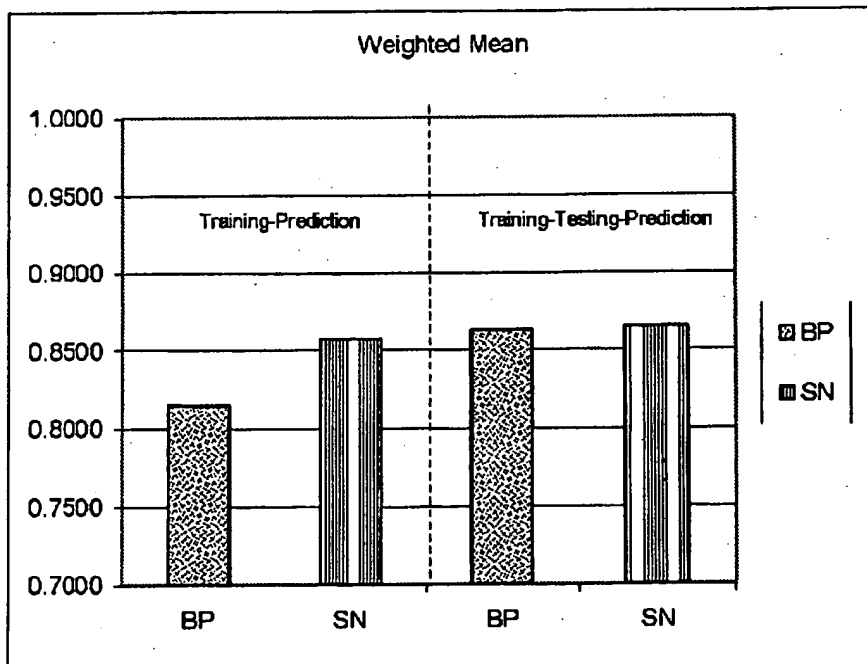


Figure 21 – Result Comparison between BP and SN on the Australian Credit Scoring dataset, with "Early Stopping" (Tr-Ts-Pr) and without (Tr-Pr)